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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/521,820

05/23/2005

Emil Edwin

04150.0016U1

2413

23859 7590 02/20/2007
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EXAMINER

PATIDAR, JAY M

ART UNIT

PAPER NUMBER

2862

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/521,820

Applicant(s)

EDWIN ET AL.

Examiner

Jay M. Patidar

Art Unit

2862

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-12 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 8, 9 and 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/21/05, 8/8/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: The reference numeral "2" in fig. 1. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. Claims 9 and 18 are objected to because of the following informalities:

In claim 9, the phrase "the magnets" should be ^{the} ~~---~~magnet~~---~~;

In claim 18, there is no antecedent basis for "method" at line 2.

Appropriate correction is required.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: a magnetic field generating source of known strength to create a magnetic field in the surface region of the member, an estimate of the thickness of the chromium depleted layer being determined from the resultant magnetic flux measured by a hall element arranged at substantially 45 degree to the longitudinal axis of the magnet.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7,10-12,14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (5,105,151).

Takahashi discloses a method and apparatus for magnetically detecting a carburized portion of a steel member including a permanent magnet e.g. 16,12 and a Hall sensing element 14,18 (note whole document). Takahashi does not explicitly disclose measuring chromium depletion. However, Takahashi teaches to utilize magnetism for measuring the carburized portions occurring in the cracking tubes (col. 1, lines 31-39). It is known in the art that chromium or carburized portion is magnetic permeable, one ordinary skill in the art would monitor or detect such portion by measuring magnetic field density at the surface. Therefore, by measuring the magnetic flux density, an indication of the amount of chromium or carburized portion could be made and would provide the thickness of it. It is also noted that the use of magnetic field measuring means for measuring chromium depletion is considered an "intended use". Furthermore, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Consequently, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the device of Takahashi to monitor or measure the

thickness of chromium depletion in the cracking tubes since such device is known in the magnetic field sensing art to determine the thickness of a layer using the combination of Hall sensor and the permanent magnet.

As to claim 12, the use of a protective pad between the object and the sensor is known in the art to protect the sensing element.

As to claim 18, as to the limitation " a method of monitoring...", it is the Examiner's opinion that such a method step in a product claim, " which product is not patentably distinguished from the prior art, cannot impart patentability to the old product." *In re Dilnot*, 133 USPQ 289,292 (CCPA 1962), citing *In re Moeller*, 28 CCPA 932, 117 F.2d 565, 48 USPQ 542 ; *In re Lifton*, 38 CCPA 1119, 189 F.2d 261, 89 USPQ 641 ; *In re Shortell*, 36 CCPA 1013, 173 F.2d 993, 81 USPQ 359 . "Even though product - by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The end product of Applicant's device and that of prior art's are the same. Thus, the added method limitation imparts no patentability to Applicant's claimed product.

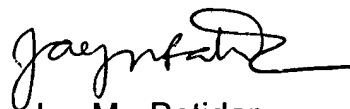
6. Claims 8-9,13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to show a magnet disposed 45 degree with respect to the surface or the sensor.
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay M. Patidar whose telephone number is 571-272-2265. The examiner can normally be reached on M-Thur 7:00-5:30.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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February 12, 2007